Amended Claims

Cancel claims 1-15 without prejudice.

16. (Amended) A method for filtering nonlinear distortion in a signal communicated from a transmitter to a receiver via a communication path, comprising the steps of:

pre-distorting said signal at the transmitter to accentuate the signal magnitude at a fixed frequency where said nonlinear distortion resides;

communicating the pre-distorted signal to said receiver; and

filtering the pre-distorted signal at said receiver to attenuate the signal magnitude at said fixed frequency, wherein said pre-distorting of said signal at said transmitter compensates for distortion effects caused by said filtering at said receiver.

19. (Amended) Apparatus for filtering nonlinear distortion in a signal communicated from a transmitter to a receiver via a communication path, comprising:

a first filter at the transmitter to provide a pre-distorted signal having an accentuated magnitude at a fixed frequency where said nonlinear distortion resides; and

a second filter at the receiver adapted to filter the pre-distorted signal to attenuate the signal magnitude at said fixed frequency, wherein said first filter

compensates for distortion effects caused by said second
filter.

20. (Amended) Apparatus for filtering nonlinear distortion
in a signal communicated from a transmitter to a receiver
via a communication path, comprising:

a first filter at the transmitter to provide a
pre-distorted signal having an accentuated magnitude at a
fixed frequency where said nonlinear distortion resides;
and

a second filter at the receiver adapted to filter
the pre-distorted signal to attenuate the signal magnitude
at said fixed frequency, wherein:

said second filter comprises a notch filter
having a Z-transform transfer function described by:

$$H(z) = \frac{1 + 2\operatorname{Re}(\alpha)z^{-1} + z^{-2}}{1 - 2\operatorname{Re}(\alpha)R \cdot z^{-1} + R^2 \cdot z^{-2}}$$

where $\alpha = \exp(2j\pi\phi)$, $\phi$ is the normalized center
frequency of the filter, and R is a constant; and

said first filter implements the inverse transfer

function $H(z)^{-1}$.

Insert the following new claim 21:

--21. (New) Apparatus for filtering nonlinear distortion in
a signal communicated from a transmitter to a receiver via
a communication path, comprising:

    a first notch filter at the transmitter having a
first transfer function to provide a pre-distorted signal
having an accentuated magnitude at a fixed frequency where
said nonlinear distortion resides; and

    a second notch filter at the receiver having a
second transfer function adapted to filter the pre-
distorted signal to attenuate the signal magnitude at said
fixed frequency;

    wherein said first transfer function is the
inverse of said second transfer function.--.